

Role of Integrated Artificial Intelligence for Knowledge Creation and Decision Making for Improving Firm Performance

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Abstract: The present research shed light on the decision-making process of businesses based on integrated AI technology. The technology is very helpful in searching and gathering accurate business information which could further be used in the performance improvement of the business. Moreover, the research depicted several applications of AI technology and the percentage of companies that used such technologies in their business for the motive of performance improvement by achieving all their predetermined objectives of the business.

Keywords: *Integrated AI, decision-making, performance, information.*

I. INTRODUCTION

Nowadays, the UK industry is one of the most efficient and effective industries across the world in terms of work completion and performance. This is because the UK is a developed country that has all the resources and technologies which could become helpful for the firms in improving their business knowledge as well as performance [1]. In the current period, the market competition for all types of businesses is very high due to having a large number of marketers for specific products and services. The global presence of multinational companies is also one of the factors for increasing the competition level in domestic as well as foreign markets. The main reason for multinational companies for their global presence and business expansion is the use of advanced technologies in business [2]. The advanced technology includes the applications of machine learning algorithm and AI (Artificial Intelligence) turn a complex task into simpler form by using auto learning technology. The technology is helpful in deriving the business information and data by using pattern recognition

technology through which one firm can compete with others. Moreover, the main aim and objective of this research are to find out the applications of integrated artificial intelligence technology for the creation of business information and improvement of a firm's performance during an accounting period [3]. In order to illustrate this factors in depth, this research has mainly focused on the collection of data and information of UK listed firms for measuring their increase or decrease in performance level in the industry.

II. LITERATURE REVIEW

Integrated artificial intelligence is the combination of its applications, sub-technologies or methods, which is used by a firm for performance improvement. It is quite evident that the competition level for all types of businesses and firms is very high globally due to the limited demands and presence of higher competitors in the market. Having efficient technology can cause a reduction in human errors since technology could manage the work automatically and thus the efficacy of the organization can be ensure [4]. Nowadays, the creation of information and measuring such information in respect to the business is the key to success for all companies. For this reason, every company has its own research and development department, which is responsible for gathering sufficient data from the market for the development of products and services prepared by the company. In order to fulfill this purposes, the integrated artificial intelligence always keep updated in terms of knowledge by providing latest data that further may help to make decision.

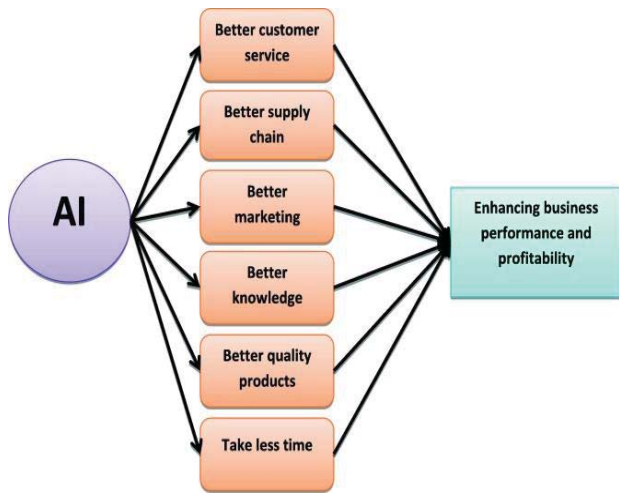


Fig 1: Benefits of Integrated AI (Source: [5])

Moreover, in the UK every large company uses AI technology for automation of their work and reduction of human efforts during the work period. Technology has benefited companies nowadays but it has a harmful impact on business as well. The benefits of integrated artificial intelligence are it can manage complex data-related work for measuring the firm’s performance in the industry. However, integrated technology can become harmful since technologies can be interrupted at any point in time which can cause deficiencies in the business of the companies [5]. Therefore, it is understood that the more technologies provide support to businesses the more they grow in the industry by enhancing their performance. However, if the technological problem incurs, the whole business operations of a firm can be interrupted and for this, the proper use of technology is helpful for a firm in managing a successful operation in the industry.

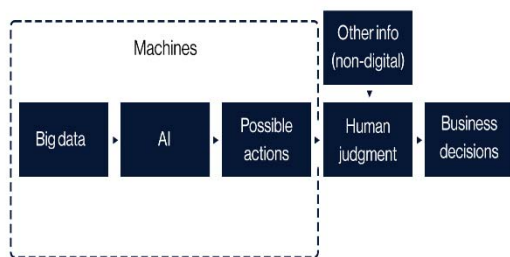


Fig 2: Decision making process through AI (Source: [6])

The above figure has demonstrated the process of AI through which the decision making can be done efficiently. In order to run a business profitably, decision making task is very important that need to take cautiously as based on this factor the future growth of the business depends. The applications of integrated artificial intelligence technology include *“personalizing the experience, fraud prevention, AI-powered assistance, and data analytics”* [7]. These applications of AI are one of the helpful tools for businesses nowadays since it increases the efficiency of work by which the performance level of work has automatically enhanced in business [8]. Moreover, it is illustrating that approximately 15% of the businesses currently use AI technology which

includes 432,000 companies in the UK. Further, 10% of the business is planning to adopt the technology in their firm, which is approximately 292,000 businesses respectively [9]. The data shows that a large number of companies are using AI technology in their business currently. Therefore, 61% of the employees of the firms have felt that the application of Ai in business has increased the productivity and efficacy of business.

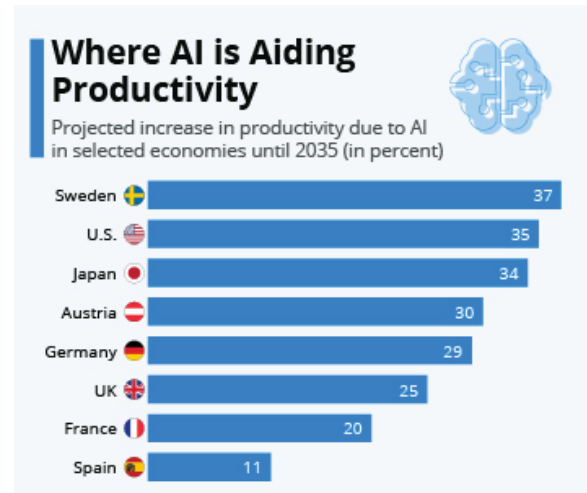


Fig 3: Role of AI in productivity (Source: [10])

III. RESEARCH METHODOLOGY

The research methodology is one of the important chapters of this research. Since this chapter, the research has obtained various information and data about the companies that use integrated AI technology in business [10]. The search for integrated AI technology is important for the research since it could depict the performance level of firms in the UK and international markets. This is commonly known that in the current era AI technology has played a significant role for different business entities in the creation of business knowledge for those companies [6]. Therefore, the creation of business knowledge can become possible by measuring the trends and preferences of the market industry, which could be beneficial in manufacturing satisfactory products for the customers. Therefore, the researcher has conducted the research by adopting the descriptive research design and positivism philosophy that are helpful in eliminating the research difficulties by bringing factual knowledge about the AI and business firms [7].

Moreover, the researcher has used both the primary method and secondary method of research for the successful completion of the research. The primary research has been conducted by taking interviews of 80 employees of different sectors that use AI technology in the business [8]. The responses of the employees could be helpful in measuring the impact and role, which integrated AI technology has given in their business. On the other hand, the secondary research adopted by the researcher is also helpful in finding the information and data of performance indicators of business by using online websites [9]. The secondary research has been conducted by the researcher by using the online articles and journals which contain the information regarding the company information, which is very crucial to measure since

it could reflect the financial as well as the business performance of the firm during the year.

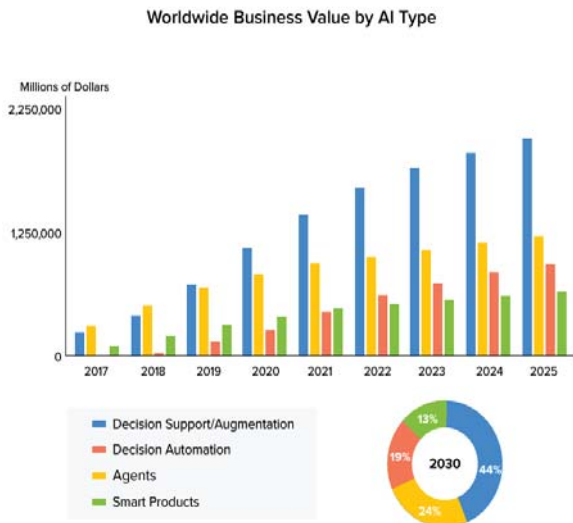


Fig 4: AI in worldwide business (Source: [10])

Furthermore, during the research, the researcher has identified a list of methods of integrated AI technologies that are “artificial neural network, colony optimization, particle optimization, fuzzy logic system, and evolutionary computing”. Such methods are useful in a detailed analysis of the business operations of an organization which indicates the required things and changes for the improvement of performance. Therefore, it is understood that most firms of the UK have used AI technology in business which enhanced the business efficacy of the firm to a high extent [11]. Lastly, it is illustrating that with the help of both the primary and secondary methods the researcher has collected several statistical data of UK listed companies that show a growing performance after adopting the AI technology in business.

III. ANALYSIS AND INTERPRETATION
PRIMARY DATA ANALYSIS

Q1. How far do you agree that integrated AI technology is helpful in the creation of business information?

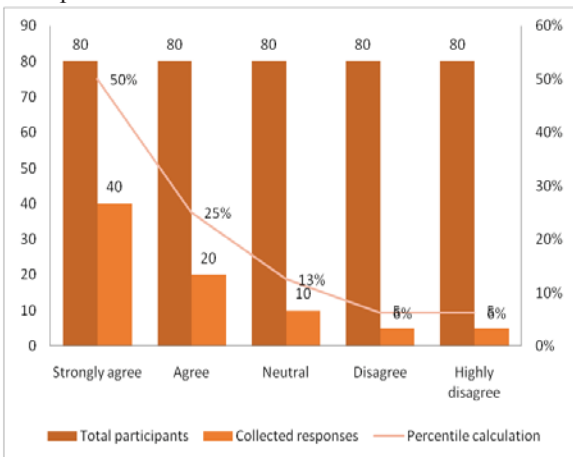


Fig 5: Response of sample Q1

(Source: Created by the researcher)

Analysis

The above table and graph depict that most employees have felt that the integrated AI technology is helpful in the creation of business information. Approximately 50% and 25% of employees strongly agree and agree on the question, which means the role of AI is high in the creation of business information for measuring their performance in the competitive market.

Q2. How far do you agree that integrated AI technology is helpful in business improvement?

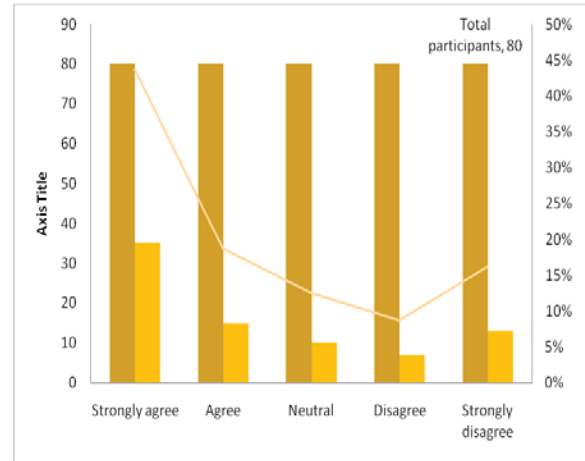


Fig 6: Response of sample Q2 (Source: Created by the researcher)

Analysis

In these questions, the researcher has also got positive responses from the employees of different sectors. This is because approximately 44% and 19% of employees strongly agree and agree whereas; approximately 9% and 16% of employees disagree and strongly disagree on the question. This clearly indicates that integrated AI technology has a role in improving the performance of the business of the organizations.

Q3. What is most important to the firms to create effective integrated AI technology for measuring business performance?

TABLE I: RSPONSE OF QUESTION 3 (SOURCE: CREATED BY THE RESEARCHERS)

Google form options	Total participants	Collected responses	Percentile calculation
Application of relevant models	80	55	69%
Evaluation of different sized information	80	15	19%
Evaluation of low data with more number of models	80	10	13%

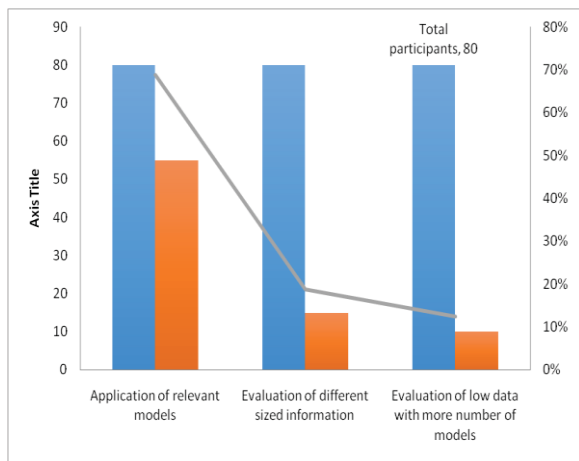


Fig 7: Response of sample Q3
(Source: Created by the researcher)

Analysis

The question depicts the necessity or requirement for the firms in forming an effective AI technology in business for enhancement of their business performance by gathering adequate information. Moreover, in this question, the research has got approximately 69% of responses in the application of relevant models of AI technology. This means the application of models is helpful in forming the AI technology in business and it could increase the firm performance as well.

IV. SECONDARY DATA ANALYSIS

The secondary data analysis is also an important part of this research, in which the researcher has gathered the evidence of the research by using online sources. A range of articles and journals has been studied by the researcher, which depicts the information about the firm's financial statements by which one can make decisions for the improvement of business [12]. Moreover, in this research, the research has followed all the research things so that the research can be completed with much ease.

V. DISCUSSIONS AND FINDINGS

The above discussions depict that the role of integrated AI technology is very high in the decision-making process since it provides a range of business information about the deficiencies of business by which one can improve the overall business performance [13]. Moreover, most of the UK industry is now using the methods and applications of integrated AI technology in the business, which could become helpful for them in eliminating all their problems and difficulties. Therefore, the AI applications or methods are decision management, machine learning platform, automation process, robotic process, etc. [14]. These applications played a vital role in the UK industry by creating information based on the business operations of the firms. Hence, it is understood that without undertaking the integrated AI technology in business one cannot manage the complex data analysis properly. As a result, it could harm the business operations and for this identification of reliable and accurate information is important in decision making, which further helps in business improvement in the industry [15].

VI. CONCLUSION

The above statements portray that the UK listed companies have grown in the market continuously after the adoption of applications or methods of integrated AI technology. Therefore, it is concluded that business organizations can get reliable and correct information by using the technology. Further, the information can be used in the decision making process for forming a positive environment for employees, which could increase their productivity of the business. Lastly, it is concluded that the collection of information and increase in productivity could cause enhancement of business performance directly or indirectly in the UK industry.

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